

## ABSTRACT

A method of operating a computing device having NAND flash memory for storage of program code and user data. At start up, only selected  
5 components of the computing device core operating system are shadowed into RAM. Other components, such as read only system files associated with the core operating system, are retained in the NAND flash memory and only shadowed into RAM upon demand. The program codes shadowed into RAM at start up and the program codes shadowed into RAM upon demand are  
10 presented to a file server of the computing device as a composite file system. The use of the composite file system reduces the amount of RAM permanently occupied by core operating system code during operation of the device and also enhances the use of the more power efficient NAND flash memory. Moreover, the boot up time of the device is also significantly  
15 reduced.